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ABSTRACT

This study was designed to examine the means and timeliness of identifying and locating information in the present environment of the University of California, Santa Barbara (UCSB) Library, and to determine the means of access that might best be employed during the next decade. Study methodology included an analysis of readings in the professional literature, an in-house study, on-site examinations of access systems at other libraries and information agencies, interviews with library personnel and other resource people, and group discussion. Trends affecting access to information, access to local resources, remote access, and standards or ideals for access to material are discussed, and issues for future study are considered. Short-term recommendations include the preparation of library records for an automated catalog, improvement of resource awareness, and improvement of the delivery of information; long-term recommendations are concerned with the implementation of an online public access system. References are provided, and appendices include: (1) the task force charge and action plan; (2) a chart of access to local resources; (3) a list of resource people; and (4) a 42-item bibliography. (KM)

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TASK FORCE ON ACCESS TO INFORMATION

UNIVERSITY LIBRARY

UNIVERSITY OF CALIFORNIA, SANTA BARBARA

FINAL REPORT

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I. INTRODUCTORY SUMMARY

As a component of the OMS/UCSB Public Service Study effort, the Task Force on Access to Information has been concerned with, in simplest terms, an examination of the means and timeliness of identifying and locating information in the present environment of the UCSB Library, and with anticipation of the means of access that may best be employed by the UCSB Library of the next decade. In addressing these central concerns, we:

(1) have considered the probable impact of trends affecting access to information, both in the larger environment and specifically in academic research libraries, and have compiled our findings;

(2) have described the various collections which make up the UCSB Library, identifying the present status of bibliographic and physical access to material;

(3) have outlined criteria which may be used to assess priorities in developing improved access to material;

(4) have assessed the present and probable future role of specific programs and tools used to access off-site material and to maintain cooperative relationships with outside information interests;

(5) have considered the likely needs and expectations of our academic community in terms of timeliness, ease and breadth of access, in the coming decade, and have compiled recommendations as to standards required to meet these needs; and

(6) have recommended practical methods, wherever possible, of achieving the standards we have set.

We employed the following methodologies in arriving at our findings and formulating recommendations:

1. Analyses of readings in professional literature, user needs survey tabulations and other sources.
2. An in-house study examining the means of access to materials of the Library's various collections, divided among individual group members.
3. On-site examination of access systems of other libraries and information agencies, reported on by individual group members.
4. Interviews with library personnel and other resource people.
5. Extensive group discussions.

II. TRENDS AFFECTING ACCESS TO INFORMATION

Applications of New Technologies in the Larger Environment

We cannot hope, of course, to map out the exact terrain of the information environment of the future, but technological developments of recent years portend the use of new means of accessing (learning of, locating and retrieving) information in our society in the years ahead. Widespread adoption of the searching of on-line bibliographic databases among libraries, information brokers and private research units, for instance, has brought about a significant change in the shape of information access in our culture in less than a decade. When the database industry emerged in 1972, there were roughly three million bibliographic references available online. By 1981, the demand for online searching had brought the number to roughly seventy million available records.[1] Today, the provision of bibliographic database searching services in larger, public-funded libraries, particularly academic libraries, is taken for granted, and use of online bibliographic database searching by private and corporate interests is growing.

Other breakthroughs on the information scene in recent years, hinging on the computer's capacity for digital (electronic) storage of information, hold the potential for equally dramatic change. Commercial publishers and printers have made use of computer-assisted printing and digital storage of published material to augment traditional modes of publishing for several years. Computerized printing-on-demand devices have evolved to a level of sophistication in recent years that enables the quick and economic printing of digitally-encoded material on a per-use basis, printing according to user specifications.[2] Optical character recognition devices make feasible the automatic rendering into digital form of material published in traditional

formats, on a large scale. Improved telecommunications technologies, such as optic fiber and new satellite media, have made possible the transmission of a wide range of material via electronic mail, videotex, teleconferencing, and other applications. Laser-produced optical compact disks, such as the CD-ROM (Compact Disk, Read-Only Memory) promises to achieve greater storage capacity per disk at a lower cost for microcomputer users than currently prevalent magnetic media (the CD-ROM offers up to 550 megabytes of storage capacity per disk currently, with drives priced as low as $500 [3]).

Significant economic incentives have prodded publishers to investigate applications of digital encoding and storage of material. The new technologies make possible the reduction and in some cases elimination of costs of shelving, inventory-taking, retrieving and shipping of published material. The IRS' application of the Thor Power Tool decision to the inventories of publishers early in this decade made the maintenance of vast stocks of previously published items an expensive proposition, so that, increasingly, commercial publishers have moved toward electronic storage of titles and the limiting of press runs to meet current demands. Publishers of Newsweek, U.S. News and World Report, Time, The Wall Street Journal and USA Today, have gone a step further and realize savings by beaming their digitally encoded publications via satellite, microwave or phone lines to printing plants at various sites.

Pioneers in purely electronic publishing, or the provision of publications on-line for which no paper counterpart exists, are beginning to make their mark on the publishing world. Business Week, in its June 1984 assessment of the new electronic publishing industry, lists several major publishers that have ventured into this area. The products of these new undertakings are predominantly tabular and statistical data which must be updated frequently--and for which printed counterparts would be virtually obsolete by the time they were printed. The customers for these new products

are, by and large, private sector businesses. The key question in determining whether material will be accepted in a purely electronic format, according to this report, is whether the information provided "is both perishable and valuable enough to warrant the high speed that electronic distribution provides and [to] justify its high price to customers".[4]

A new type of software being developed anticipates the provision of inexpensive access to high-demand data of reference value via computer, and demonstrates the tremendous storage potential of laser-produced optical disks. Grolier Inc. has successfully transposed its Academic American Encyclopedia onto a CD-ROM disk for use on personal computers (the IBM and Philipps PC are now available with CD-ROM disk drives). An icon-based menu enables the user to locate entries by name or by means of a keyword or phrase approach; the system can retrieve all entries in which two specific words occur, for instance. Grolier plans to offer the electronic encyclopedia for $199, and projects further enhancements of the disk, which can hold an additional 400 megabytes (the 21-volume, nine million word encyclopedia, with retrieval systems, takes up 110 megabytes).[5]

The emerging electronic publishing industry, encompassing the production of computer software, realized a revenue of $3.2 billion in 1983, as compared to revenues of $23 billion for newspapers, $11 billion for magazines, and $ 8 billion for book publishers. While traditional print ventures are growing at an average annual rate of 11%, electronic publishing has exhibited an annual growth rate of roughly 25%, according to Business Week's 1984 report.[6]

Displacement of Traditional Knowledge Forms and Library Functions--How Soon and To What Extent?

Some prognosticators predict a scenario for the not-too-distant future in which the hardcopy products of publishing efforts become extinct, libraries as

we know them are rendered obsolete, publications are provided on-line, and research as well as virtually all reading in our society is carried on at computer terminals. F. W. Lancaster[7], in a recent evaluation of trends, asserts that the prevalence of the use of personal computers, the expansion of electronic mail to new users, and the introduction of commercial videotext services to "at least some of our homes" herald the rapid approach of a paperless (bookless) future for our society. Schneour[8], in a 1983 projection based on general trends in publishing, speaks of the "increasingly significant economic disadvantages of traditional publishing"; he warns that books in the fields of art, history, literary fiction, poetry and even science and medicine are particularly threatened because of paper, labor and other production costs; and observes that "the book as a cultural institution is in danger".

The tone of the messages of these prophets, among others, lend the impression that the forces of technology and economic necessity press our society toward imminent and revolutionary change. Yet projections, for the most part, do not pinpoint too closely the dates of anticipated upheavals from the status quo--nor, realistically, can we hope to--for, as other observers offer, significant hurdles remain on the path to realization of a paperless age, and evolution is perhaps more likely than revolution.

Fields[9], reporting in 1982 on a talk given by Richard Neudstat, former communications advisor to President Jimmy Carter, points to the lack of standardization in telecommunications equipment as a major impediment to acceptance of electronic publishing. Until the federal government imposes standards, or the industry itself, working cooperatively, moves to adopt standards, publishers experimenting with electronic products should move cautiously, he advised. The buying public, faced with the choices of "myriad telecommunications delivery systems and no standardization so that systems can

be used interchangeably", along with high initial costs of procuring hardware, likely will be slow to embrace electronic products, too, Fields believes.

In the wake of deregulation and divestiture of the principal telecommunications companies, no federal agency has moved to institute telecommunications standards in recent years, but there are signs of recognition of the problem and hope for the development of voluntary standards from within the industry. In February 1984, a new Telecommunications Committee was formed within the Exchange Carriers Standards Association, which had been formed the previous year, to focus on "those functions and characteristics associated with the interconnection and interoperability of telecommunications networks. Membership in this new standards body is "open to all parties with . . . in the formulation of telecommunication interconnect standards".[10] Standards recommended specifically for the transmission of electronic mail, drafted in early 1985 by the Consultative Committee on International Telegraphy and Telephony, were devised to provide for the effective linkage of disparate systems, among other things.[11]

A candid assessment of the scope and seriousness of the industry's problems emerged in a 1984 symposium sponsored by the Institute of Electrical and Electronics Engineers. Speaking before the assembly, Howard Frank, president of Contel Information Systems Inc., warned of an "approaching crisis" in the multi-vendor telecommunications arena, where incompatibility of equipment, lack of diagnostic techniques for network maintenance and repair, and lack of sufficient numbers of critical personnel threaten the industry. In the context of the spread of incompatibility to the sphere of voice communications, Frank characterizes incompatibility of equipment as "one of the major problems of the data communications and processing world". Frank goes on to observe that too many vendors are unable to maintain systems they sell; and that many, in fact, are marketing features which their systems lack the capabilities to support.

"Everyone is selling everything. Slick brochures promising spectacular new features and capabilities abound. Unhappily, working products implementing these features are in short supply", according to Frank.[12]

Borell[13] sees the inability of digital technologies to produce images matching the quality and cost of the traditional, mechanical gravure process as the crucial inhibitor of the advance of all-electronic media. The display of color images requires a great deal of memory capability in a computer, making it prohibitively expensive; and other factors, relating to image capture, storage, transmission and the provision of affordable display, make aesthetically acceptable graphics problematic. Writing in 1982, Borell predicts that significant breakthroughs in resolving problems may be two decades away.

A related problem that causes publishers to give pause at the threshold of an entirely paperless future is that of securing the revenue which in traditional publishing is recruited from advertisers. Business Week's 1984 report on new electronic publishing ventures relates that, "it is not yet clear how . . . [publishers] can persuade their customers to pay for information alone--or, if they cannot, how they can recruit advertising support for their electronic products."[14] Faced with the fees-per-use of paperless reading, much of the public would likely forbear the sort of "leisure" reading that informs and sometimes entertains, which advertisers have always supported. Academic and scientific research journals, which traditionally have not relied heavily on advertising, and publications comprised of numeric and textual data, would be, presumably, in a better position to go "paperless" than more popular published materials; but the prospects for "online newspapers" and "online magazines" pale a bit in light of this consideration.

A particular application of current technology, videotex (at one time known by the somewhat less cute appellation, "videotext"), is envisioned as playing a

central role in the emergence of a paperless information age. Videotex is the transmission of text and graphics on an interactive basis between remote terminals and a central computer, typically via phone lines. Use of videotex in the home is a reality in some Western European countries (Britian's Prestel service has an estimated 50,000 subscribers; a government-sponsored videotex service in France, Minitel, had been embraced by one million subscribers by late 1985). In the U.S., videotex has met with success for certain business applications, but pilot projects introducing the service into homes have largely wound down, and efforts to market the service for household use on a large scale have failed. The course of several such ventures are outlined by Lowenstein and Aller.[15]

Market factors, rather than technological limitations, are what have, to date, hindered videotex's wide acceptance among the public. American consumers are accustomed to paying large sums for home entertainment equipment, such as stereos and cable t.v., but are, on the whole, simply not willing to pay much for information (which, after all, is largely free, or available for the nominal cost of a newspaper). And, with the costs of the hardware necessary to receive the service typically running about $600, the public is, predictably, uninterested. Advertisers are, again, in turn, reluctant to underwrite costs, offsetting subscriber fees, until the customer base becomes sufficiently large to make it worth their while.

When the hardware for videotex is substantially reduced in cost, terminals become widely distributed, and the public becomes accustomed to innovative services such as home banking and electronic mail, the economics will have come right for the wider emergence of electronic publishing--for videotex is the most likely vehicle for the emergence of "the electronic journal" and related developments, according to several observers. Lowenstein and Aller see the provision of cheaper (or perhaps free, as in the French system) terminals by

telephone companies as a likely scenario for the near future.[16] It should be pointed out, however, that, for the time being, cheaper terminals cannot provide the quality of graphics needed for some envisioned applications.

Recent marketing efforts have offered videotex systems designed for use with personal computers. Lowenstein and Aller are unsure of the soundness of this strategy, remarking that the provision of home receipt via personal computer is "essentially a defeat for the original idea that [videotex] can be truly a mass medium", since only about 18% of American households harbor personal computers.[17]

The question of exactly what can be copyrighted emerges with a new twist in the database-production industry, according to several observers. Legislation and judicial interpretation have held that not individual facts themselves, but idiosyncratic arrangements of facts, are copyrightable. In light of this, who "owns" what when a database producer "digests" the facts from a book? And what is to prevent a databases producer from essentially grafting another's product onto his own, when borrowed items have consisted of mere facts? Print-on-paper publishers are likely to become rather protectionist, and litigation will inevitably emerge to impel resolution of these questions in years ahead.

A.E. Cawkell's 1980 assessment of problems and opportunities for electronic publishing seems to have, in general terms, held true.[18] Cawkell observes that technological and commercial factors, responsible for "technology-push" will accelerate the rate of change, while political and social factors, influencing demand, will, generally, retard the pace of change. And we witness: technological innovations, such as computerized printing technologies, interacting with economic necessities, such as the need to control publishers' costs, expanding the frontiers; while political and social factors, such as

standards uncertainties in telecommunications, user resistance and copyright dilemmas, hampering full realization of technology's potential for change.

Over the next decade or so, in the larger information environment, we should probably expect to see the predominance of computer-paper hybrids, that is, traditional print-on-paper forms economized by refinements of computer-assisted publishing, and digitally maintained information systems with print-out capabilities. Traditional formats will be maintained, even at great expense, for publications where aesthetic considerations weigh heavily. Limited forays will be made into all-electronic media, where success depends on the importance of timeliness. New uses for dense storage media, such as laser-produced optical disks, are likely to be realized. Libraries will continue to employ technological innovations, such as automated public access catalogs, new dense storage software and telecommunications links with one another, in enhancing access to new and traditional forms of information; and will continue to offer the public physical provision of needed materials, interpretation of tools and sources, consultative help and other important traditional library services.

Trends in Access to Government Information

The trend toward diminishing access to information by and about the U.S. Government has accelerated in recent years, largely due to the perceived need to economize the government's information dissemination activities. When the Paperwork Reduction Act was signed into effect in 1980, the Federal Office of Management and Budget (OMB) was given the discretion to determine what the Government Printing Office would publish. In 1981, the OMB, acting on a directive from the President, ordered a moratorium on new periodicals, pamphlets and audiovisual products, as a cost savings measure; and compelled federal agencies to issue reports annually to the OMB, justifying the existence, according to certain criteria, of each publication currently produced by the

agencies. In the first year of implementing this "waste-cutting" program, over 2,000 publications were cut. Statistical publications of the Census Bureau and the Bureau of Labor Statistics, as well as numerous consumer information documents were among the items eliminated. By 1983, the cancellations had reached approximately 7,000.[19]

In addition to elimination of publications, the government has moved to promote the sale of items previously distributed free (to depository libraries and to consumers), to increase the price of items formerly available at a nominal cost, and to entrust publication and dissemination to private sector concerns who market the information on a for-profit basis. In 1981, the price of Federal Register went from $75 to $300, and the price of Congressional Record from $75 to $281. In 1982, the Government Printing Office accepted 25 out of 69 publications proposed for sale by the National Bureau of Standards, leaving the remainder to be distributed through the National Technical Information Service (which typically offers publications at two to three times the price of GPO, in order to remain self-supporting).[20]

The Washington-based Information Industry Association, counting among its members representatives of several of the large corporate information agencies, such as I.B.M., Time Inc., Xerox, McGraw-Hill, Dow Jones and Mead Data Central, was formed in 1978 "to promote the development of private enterprise in the field of information and to gain recognition for information as a commercial product". This group's efforts to promulgate the privatizing of government information has been well received by the current administration, according to Schiller and Schiller[21], and private companies have successfully negotiated contracts for the initial publishing, printing and distribution of information produced in the course of government activities. For example, the National Institute of Mental Health database, which had been available at $16 per hour of

connect time, was turned over to the IFL/Plenum Data Company in 1982, and made available at a cost of $55 per connect hour.[22] The Department of Education's Education Directory was replaced in 1983 by HEP Higher Education, published by Higher Education Publications, Inc. In its 1983 fiscal year, GPO contracted out the printing of 59% of its printing and binding jobs.[23]

OMB published the draft of a proposed circular on the management of federal information resources in the March 15, 1985 Federal Register, stating, among other provisions, that federal agencies are not to actively disseminate information to the public unless it is "essential" to the agency's mission; and that "agencies are to act in the most cost effective manner, which includes maximum reliance on the private sector". Despite extensive criticism on the part of members of Congress, the American Library Association and other concerns, and public demands for the opportunity for further review of any revisions of the circular prior to its final issuance, the OMB issued the policy directive December 24, 1985, with the basic content (of the earlier proposal) intact. The OMB directive does make the provision that agencies are to continue to arrange to make government publications available to federal depository libraries, and contains other amendments which reflect response to criticisms of the earlier proposal; but the directive requires in its final form that cost-benefit analyses be conducted for government publication efforts, that "maximum feasible reliance on the private sector" prevail in the dissemination of government information, and that user fees be instituted where needed to accomplish cost recovery.[24]

There can be little doubt that the new measure will accelerate the trend toward the privatization and commercialization of government information resources, and thus restriction in access to these resources. Little regard is given to the public's need--and, indeed, right--to have information about the activities of its government when the proprietary value or cost recovery

potential of the information is the uppermost consideration. The private sector has no incentive to make available items of information not deemed profitable, and is under no obligation to provide the public with information at a reasonable cost. In its December 23, 1985 editorial, "Privatizing the Numbers", The Washington Post observed that the OMB circular would be likely to "reduce the number of printed government publications available in libraries or at low cost and [to] increase the already widespread practice of private outfits interfacing with government computers and providing printouts for users at hefty fees."[25]

Other developments of recent years--ones not so closely tied to economic considerations--have the net effect of diminished access to government information, as well. A 1980 Supreme Court ruling held that the Freedom of Information Act "does not apply to research prepared by a private group, even when the research is financed by the U.S. government and the research records are in the government's possession."[26] Although the law as it now stands forbids the copyrighting of U.S. Government documents, items of publicly funded data will leave the public domain as they are duly "prepared" for sale and become the marketable commodities of private concerns. A 1982 executive order provided for greater ease among federal agencies in classifying government documents, dropping the requirement that a specific harm to national security be identified to prevent disclosure. Another presidential directive, issued in 1983, requires that certain government officials with access to intelligence information (about 100,000 persons) submit for administrative prepublication review any items they choose to write concerning the government or their experiences in service.

It is as yet unclear what costs, if any, will be absorbed by the federal government in providing access to exclusively online, government-produced

information. In June 1985, the Congressional Joint Committee on Printing enjoined the Ad Hoc Committee on Depository Library Access to Federal Automated Data Bases to develop criteria for selection of libraries to participate in a pilot project which will "investigate the economic feasibility" of distributing electronically published government data to federal depository libraries, according to Tom Kleis, JCP Staff Director.[27]

The growing privatization and commercialization of government publishing, the restrictive influence of new government policies, and the prospects for dissemination of information online (in some cases with no hardcopy counterpart) are among the trends being monitored by such interests as GODORT (Government Documents Roundtable, a division of ALA), the ALA Washington Office, the Congressional Joint Committee on Printing, and the Depository Library Council to the Public Printer (composed of librarians of depository libraries). As the impacts of these trends become more evident, librarians should communicate their concerns through these and other channels, and continue to press for the institution or restoration of unrestricted public access to information generated by the federal government, taking as public a stance as possible.

The Competitiveness of the Research Library in Tomorrow's Information Marketplace

Careful planning in the use of resources and a vigorous approach to services are needed to insure the continued vitality of the academic library in an increasingly information-based economy. Entrepreneurs who provide information on demand to corporate users will be our natural competitors. In recent years, agencies have emerged that provide sophisticated document delivery services and consultative services (often employing professional librarians); and that even, in some cases, make use of the same bibliographic utilities as libraries (in the ILL modules) to borrow material.[28] Libraries must pursue the

latest developments in applications of technology and cooperative arrangements, to obviate the prospect of outside interests pursuing the academic research market.

Some research libraries have, in recent years, extended services to corporate users, often interacting with corporate libraries or information units. The ARL/OMS Systems and Procedures Exchange Center (SPEC), in a 1982 survey of ARL member libraries, found that sixteen member libraries then had a "special fee-based unit or plan for serving the business, industrial or research communities"; that, of these sixteen, five were considering an expansion of these services; and that three other members were considering the development of such units or services. Levels of service provided and cost recovery policies varied among institutions. No survey of user perceptions of these services was undertaken in this instance, but presumably, some corporate users have found in research libraries a cost effective source of needed information. New users for document delivery and related services, and interpenetration of the markets of "information entrepreneurs" and research libraries, are trends that are likely to continue.

In the coming years, our user community will develop new expectations based on exposure to the use and capabilities of current technologies, and be more exacting in their demands for information. Some may become so sophisticated in the use of bibliographic and full-text data bases themselves that they will require assistance only in occasional physical retrieval of needed items. For most members of present user groups, however, dependence on libraries (or library-like services) to meet a wide range of information needs will continue, in spite of increased computer literacy, Saldinger[29] suggests, because of a "bibliographic literacy" factor. Users are not likely to acquire overnight the patience and expertise required to make comprehensive searches for material, accurately interpret citations of sources and consult and interpret holding

statements of union lists, for instance. In these respects, corporate libraries often take on the characteristics of end users, according to Saldinger.

It is quite possible that developments in laser disk storage of full text databases will alter somewhat the dynamics of ownership and remote access in academic libraries in the next few years, perhaps shifting the balance even more heavily in favor of local ownership of vast stores of primary material. The effects of this application of the technology on networking considerations are likely to become increasingly evident. Lack of standardization of hardware and software, at least in the short run, will be a problem. However, this is less of a caveat if we follow the advice of Abbott[30] who, in reference to video based information systems, writes that, "if a technology works and serves users for up to a five year period, it is an acceptable choice [for libraries]".

Perhaps more immediately, the laser disk technology may eliminate the need to use online database searching services, as more bibliographic databases become available on a "subscription" basis, via laser disk. Disk-stored bibliographic databases will enable predetermined budgets for searching, and will obviate problems associated with remote, dial-up access. A handy illustration of the capabilities of the compact disk in this sort of application is the Infotrac service, which provides citations to current publications via sophisticated retrieval software, at a predictable cost. Other bibliographic services, for which the alternatives had been hard copy, microform or online access, are beginning to be marketed in this way. For instance, Silverplatter Information, Inc. offers Excerpta Medica, Psychological Abstracts, ERIC, LISA and PAIS databases, with retrieval software, via laser disk.

Provision in hard copy of material in journals and books will remain a function of the library not easily displaced in the next several years. Newcomb[31] notes that no substantial drop in the subscription base has been

experienced by publishers who provide online counterparts to printed products, and observes that, in many cases, the traditional library continues to be the most cost-effective source for materials.[32] Saldinger believes that the lack of success of the ADONIS project in 1984 (which was devised to deliver full text material published in journals via telecommunications links and disk storage, drawing on a consortium of the publishers of many scientific, technical and medical journals) was due largely to perceptions of potential users that access to the material provided had never been a problem, so that costs of improving access were not warranted. Yet Saldinger notes that successful development of this kind of service for more obscure, less-in-demand items is unlikely.

Continued diversification of academic library services is not only likely, but desirable to meet users needs, at least one observer maintains.[33] Walters says that different information expectations, different services and even different media will be generally embraced by two broad classes of academic or research disciplines. "Noncumulative" disciplines (the humanities and social sciences), for which knowledge <u>in context</u> is important, are likely to prefer in-print books and journals and largely traditional library services; whereas researchers in "cumulative" disciplines (essentially the hard sciences), for which current thought can be vastly different from that of the past, are likely to be more receptive to an online environment, and more demanding as to timeliness of information provided.

The importance of the consultative function of the librarian must take on increased importance, according to several observers, as the wealth of available information grows and comprehensive access to data on a topic becomes more easily realized. Subject specialists will be called on to separate "wheat from chaff" among possible sources of information on a subject, particularly as technology provides the means for altogether new forms of "publication".

That the development of improved access to library resources by means of an online public access catalog is central to improving library services and to maintaining the competitive stance of the academic research library is fairly universally recognized as a fact. The question for research libraries has become how rather than whether to implement automation of the library's major tool for bibliographic access. An online catalog can provide one source for virtually all material housed in the library, unifying and eliminating separate manual files and other finding tools; can link current status information (such as "on order", "at bindery", "circulating", "at storage") with the bibliographic record for an item; can enable greater flexibility in accessing records than card technology; and can provide access to the library's holdings records from locations outside the library via remote terminals.

The Council of Library Resources study of the patron and online catalog use found that users want to be able to perform topical subject searches as often as known-item or author/title searches in the online facilities of research libraries. Yet Cochrane[34] alludes to other studies of patron online searches which support the notion that subject access in current systems is inadequate. Other observers go further still in denouncing current subject access. Markuson, chair of the Library of Congress' Network Advisory Council, says that users who are accustomed to online abstracting and indexing services developed by vendors and by the National Library of Medicine (whose CITE service is particularly user friendly) view current online public access catalogs developed by libraries as "primitive".[35]

Simonds[36] asserts that the problem in subject access has its roots in the MARC database; the number and variety of subject descriptors used in a typical MARC bibliographic record are not sufficient to effect ease of retrieval via topic approaches. Suggested remedies for this situation, Simonds says, present

problems of their own. Libraries can add standard LC Subject Headings to existing MARC records, but this isn't practical for libraries to independently attempt on a large scale. Records can be enriched using descriptors from the tables of contents and back-of-the-book indices of works, but the storage limitations of present systems are a drawback. Keyword title searching capabilities would improve accessibility by topic, but only for works whose titles are at least roughly indicative of content.

In light of this, the anticipation that a user will be able to access virtually any item in a local, online database matching his or her need becomes flawed. Until academic libraries are ready to undertake an effort tantamount to a "second" retrospective conversion to enrich existing records for access by topic, users may have to be content with extra steps in their searches for some material (perhaps using a vendor-produced bibliographic database or index before consulting the local, automated catalog, in many cases).

Preschel[37] and others look to the the fifth generation of computing technology to provide means of guiding the user through effective search stategies. Syndetic mechanisms, such as "internal dictionaries of synonyms, automatic switching among networks of headings and automatic displays of hierarchical and related terms . . . [could] lead inexperienced searchers to the information they want without the searcher being aware of the effort involved".

Search options variously available on a wide basis in current library access systems provide fairly flexible retrieval approaches for records, including full and truncated title and author searches, controlled and uncontrolled subject term searching, Boolean operator capabilities, and keyword searching capabilities of various fields. (The latter sort of capability is essential for comprehensive retrieval in databases which include varying levels of brief records, as well as full MARC records.) In view of evidence that state-of-the-art database characteristics and searching capabilities already

fall short of the expectations of many users, adoption of new computing technology to improve the ease and efficacy of retrieval approaches, or enhancements of the MARC database--or perhaps both--seem inevitable in the coming years, so that systems adaptability is an important consideration for libraries implementing systems in the near future.

Many observers emphasize the importance of libraries developing cooperative collection development strategies, increasing participation in networks and refining network systems for access to material. Rising costs of acquiring, processing and maintaining resources at the local level, coupled with the growth in publishing often characterized as "the information explosion", mean that improvements in remote access to material will be needed more than ever in the future to complement local collection development and local ownership of resources.

The Research Libraries Group's Linked Systems Project (RLG/LSP), which is projected to provide effective computer-to-computer communication protocols among at least five major library-applied vendor systems (NOTIS, BLIS, GEAC, OCLC and RLIN) should eventually mean a real breakthrough for libraries in refining remote access. Envisioned applications include the possible extension of interlibrary loan functions across membership boundaries (so that a subscriber to one vendor service can access the records of others through online linkages). When the potential of the RLG/LSP is realized, adoption of disparate systems will cease to be a boundary to resource sharing and other forms of cooperation among libraries, and we may witness the coming of an effective national (perhaps even international) library network.

The academic library may well evolve into a sort of centralized switching operation for the fulfillment of the information and document requests of the academic community, providing comprehensive database searching, the

orchestration of requests for material to likely fulfillment sites, the delivery of full texts in various media to primary users, and the interpretation of knowledge and information in all forms.

From a literature survey of more than 180 publications which are concerned with academic libraries, Moran[38] came up with some fundamental strategies academic library administrators may employ in coping with changes ahead: 1) administrators should arrive at a careful plan to follow in years ahead, yet one that allows for many contigencies (due to uncertain trends in funding, technology and changes in the publishing industry); 2) the library should seek the considered input of faculty and other administrators of the academic community in developing a plan, rather than arriving at one in isolation; 3) library administrators must persuade campus administrations and others who hold the purse strings to devise budgets which will allow fulfillment of the library's ongoing archival obligations, implementation of technological improvements (with consideration for the built-in obsolescence of high technology) and participation in networking efforts; and 4) in promulgating networks, the academic community must be educated to think less in terms of an individual library, and more in terms of regional and national library networks.

The general nature of these recommendations illustrates the difficulty in perceiving a clear, strategic path for academic libraries to follow in relation to emerging trends. Locally anticipated vicissitudes will doubtless weigh heavily in individual libraries' formulations of plans.

III. ACCESS TO LOCAL RESOURCES

In order to determine the status of bibliographic and physical access to information and material held by the UCSB Library, the task force conducted a survey of the Library's collections, service points, processing units and access tools. Factors considered in the analysis of access were:

Cataloging level of materials, indicating the level of bibliographic information provided for material in library records.

Methods or tools used to attain bibliographic access.

Retrieval methods required to physically obtain material.

Time necessary to gain bibliographic or physical access to item.

Personnel dependency status, or whether library personnel are needed to provide bibliographic or physical access.

Physical accessibility of material, or whether material is shelved in open or closed stacks.

The information gathered by group members, with each member covering (an) assigned area(s), was recorded and organized into a chart. Appendix B displays the chart, with notes of explanation and a glossary of terms preceding the study data. Special circumstances or problems with material are detailed in a "Notes" column, although not in every case definitively.

Our findings from this study reveal, in general, that access to information and material available in the library is scattered. No comprehensive record of material exists, and no uniform approach can be applied to learning of, locating or retrieving material. Bibliographic access, rather, is accomplished through a variety of databases and tools, which may or may not be consistent from one set of data to another, including the main card catalog, the U.C. online union catalog, the RLIN database, the Serials List and other sources. For in-process materials and other irregular items, the panoply extends further still, to the

various idiosyncratic departmental catalogs and processing files, such as the brieflisted file, the serials kardex and the order department files. And, as is the case with many libraries of this size and complexity, bibliographic and physical access is often dependent on the variable knowledge and expertise of library staff (professional librarians, support staff and student assistants) to properly decipher the questions, requests and citations of users; to interpret, or guide users in interpretation of access tools; and to retrieve material.

That the most widely used and user-accessible sets of data, the card catalog, MELVYL, and the Serials List, may be assumed by users to represent our collections in a comprehensive way, belies the fact that present access is inadequate. For, as our findings confirm, these databases do not include records for a plethora of material housed in the library. As the collection grows, and our users develop greater sophistication and higher expectations in their approach to accessing information resources, more complete bibliographic control, less dependence on library personnel, and greater ease of physical access to library material will become necessary.

Improvement in access to in-process material may be attained by the development of online system with a full tracking capability, wherein automated processing records are linked to bibliographic records for in-process items, and the statuses of items are displayed on screens of a public access module.

The prospects for improvement in bibliographic access to uncataloged resources in the near term vary considerably among classes of material. Quality of cataloging copy available for items in the Government Publications Collection which lack representation in the Library's major access tools, for instance, will range from full MARC records to no copy at all, so that original cataloging, in a brief record format, would be necessary for many items. Materials in the Map and Imagery Collections, which do not conform to a

bibliographic format, and for which access to imagery rather than verbal data would be desired, cannot effectively be controlled by means of standard cataloging practices, so that entirely new approaches may be necessary to provide adequate access.

It would be difficult to determine whether much of the UCSB Library material not currently represented in these main data files would gain substantially greater use were their existence documented in a central access tool. The task force feels that some effort should be made however, to determine the relative desirability of enhanced control for specific classes of material at the outset of an effort to improve access.

Considerations in Developing Improved Access

Criteria appropriate to assigning priority among classes of material needing improved bibliographic access follow:

1. Is the material frequently used, based on user numbers (not on workload or blocks of time)?
2. Is the material unique--to the U.C. system, to the world?
3. Is the material inadequately indexed for direct user access?
4. If availability were known and access improved, would use increase (projected on basis of a perceived need in the academic community)?
5. Is present access such that it could not be adapted to a networking schema, using standard protocols?

An affirmative response to several of these criteria would tend to support high priority status for enhancing access, even at great cost, for a class of materials. Affirmative responses to the first two would, we feel, carry somewhat more weight than affirmation of subsequent ones. The group did not pursue application of these criteria to collections or classes of materials

ourselves, because we lacked the necessary objective use statistics and the luxury of time this would have required.

Retrospective Conversion

The building of a machine-readable database of bibliographic records for the UCSB Library was begun in 1979 with the introduction of OCLC to the cataloging process. A large scale retroconversion of cataloging records is now underway, and it is anticipated that conversion of UCSB records to machine-readable format will be roughly 75% complete by the end of fiscal 1987 (by July 1987). The most current statistics, compiled at the end of fiscal 1985, reflect that an estimated 27.3% of monographs, 16.5% of serials, 24.1% of music scores and 20.9% of sound recordings were then represented by MARC format records.

Currently, full cataloging records created or acquired for all formats of material are input into the database maintained for UCSB in the RLIN system, and printed cards for all records are filed into the main card catalog. Records representing monographic material, specifically, are entered not only in RLIN and the card catalog, but in MELVYL, the U.C. online union catalog, as well, so that parallel means of access are presently maintained for monographs.

That the UCSB Library should move ahead with steps toward the creation of a comprehensive and uniform access system is evidenced in "handwriting on the wall" from several angles. Trends in the larger information environment foretell that inconsistency and unpredictability of access at the local level will become more of a problem as the volume of information and the variety of formats of material continue their awesome growth. The UCSB Library's foremost traditional access tool, the main card catalog, is rapidly running out of drawer space, and added space is not available for expansion of its cabinets. And, retroconversion at UCSB is rapidly moving towards completion, creating a database which can best be utilized by a local, online public access system.

IV. REMOTE ACCESS

The following assessments of programs and tools used to access off-site material and to maintain cooperative relationships with other libraries and information units, derive largely from interviews with library personnel having expertise in appropriate areas (see Appendix C for a list of persons interviewed), and from group discussion of issues.

The U.C. Online Union Catalog, MELVYL

As the union catalog facility for the U.C. Libraries, MELVYL plays a vital role in the provision of remote access to material in the U.C. system. The MELVYL System provides users with bibliographic access and location information to a portion of the monographic materials housed at the various campuses, and with certain limitations, to serials held in California academic libraries, by means of a sophisticated array of search strategies. Though users may become more efficient in searching through point-of-use aids and programmed instruction, written prompts on successive screens of a search (in the look-up mode) guide the user through relatively straightforward steps to follow, so that the MELVYL system is generally held to be "user friendly", and to require less sophistication of the user than the more rule-bound card catalog. Response time and system reliability have, historically, been problems for the system, but recent manipulations of the MELVYL software have resulted in improved system response time.

In providing access to the collections of the U.C. Libraries, MELVYL presently has important limitations. Records in the database which can be accessed by all available search strategies are limited to monographs. MELVYL contains the same listings of serials information as the CALLS (California Academic Library List of Serials) fiche set, in a separate file of the database,

which shows title, summary holdings and locations, but not full bibliographic records. Serials, therefore, cannot be searched by subject headings. Maps, music scores, sound recordings and certain other types of material are currently excluded from the database. Roughly 30% of UCSB's monographic holdings, and an estimated 15% of U.C. systemwide monographic material are presently represented in the MELVYL database.

Maintenance of UCSB cataloging records is accomplished in RLIN and grafted onto the MELVYL database via tapes, so that, depending on when tapes are loaded, a significant lag can occur between additions and upgradings of records and their appearance in MELVYL. It is not anticipated that MELVYL will be able to directly interface with other automated processing systems at the local level either. Systems created for the functions of serials control, acquisitions and circulation at UCSB, therefore, will not be devised to communicate with the MELVYL online catalog.

Interlibrary Loan

The interlibrary loan service at UCSB is heavily used and realizes a high rate of success in fulfilling user's requests for off-site material. OCLC, RLIN, MELVYL, CALLS, NUC and a wide variety of other bibliographic tools, are employed in verifying requests and identifying locations for material. Requests to borrow items are sent by means of the OCLC and RLIN ILL modules, by teletype in some cases to UCLA (when an item owned by UCLA is not shown on OCLC); and are typed and mailed, when necessary. UCLA is favored as a site to borrow from, whenever possible, because requested items can usually be expected to arrive within two to five working days.

Because OCLC offers the widest range of libraries from which to request items, and, more importantly, the greatest number of participating libraries nearby, it is generally felt that use of OCLC is necessary to achieve timely

access to needed items. A local study comparing the success rates of OCLC and RLIN is expected to begin in April 1986. For the purposes of the study a successful request will be one which is fulfilled within 21 days; separate records will be kept of request fulfillments made within and outside the U.C. system.

A good many of the requests for material processed by UCSB's new document delivery service are referred to ILL to obtain items. Because document delivery resembles so closely services which have been provided by ILL, and duplication of effort is often the case in the present situation, a strong case can be made for the subsuming of document delivery in the services provided by the ILL unit.

Participation in Networking Efforts

At present the library is involved in four networking systems: the Center for Research Libraries (CRL); the Total Interlibrary Exchange Network (TIE); the Research Libraries Group (RLG); and the Online Computer Library Center (OCLC).

1. CRL, founded in 1949, is a non-profit organization operated and maintained by its member institutions. UC as a system belongs to CRL at a cost of $170,000 per year prorated among the campuses. CRL's purpose is to acquire research materials that, generally due to high cost and anticipated infrequent use, would not ordinarily be purchased by a member library; and to make these materials available to all members. CRL's collection is especially strong in the humanities and social sciences, and somewhat less developed in the hard sciences. At UCSB, the ILL unit routinely submits requests for items not available through ordinary channels to CRL. It is understood that CRL will purchase an item when the agency has registered a certain number of requests for the item from member libraries. Although a periodically updated fiche catalog representing cataloged items is distributed to member libraries, because of the

esoteric nature of much of the material CRL has collected, the agency does not make available, at present, a fully comprehensive record of its titles and holdings.

2. TIE is a local, multi-type library network set up for the tri-county area of Santa Barbara, Ventura and San Luis Obispo. Academic, special, school and public libraries in the area participate in TIE. Cost of membership, applied equally to all libraries, is $100 per year. Membership entitles a library to borrow materials from other participants in the system. UCSB, the largest library in the network, is also its largest lender of materials.

3. RLGis a consortium of academic research libraries whose purposes are to facilitate systems and services and the sharing of library materials among the member institutions. As part of its service to member libraries, RLG maintains the Research Library Information Network database (RLIN), which serves as a facility for shared cataloging and as an online union catalog, for members. The RLIN system features an ILL module and an online Conspectus (which identifies collection strengths of member libraries, by subject). Through membership in RLG, faculty have reciprocal library privileges at other member institutions.

Because the RLIN system provides overnight processing of new records, so that it is the most up-to-date source of records for newly cataloged material, and because its database may be searched by means of a subject heading approach, RLIN is seen as a valuable tool for timely access, by topic, to the UCSB collections, and to those of the RLG member libraries.

4. OCLC: UCSB made use of OCLC's online shared cataloging system from 1979 through 1985, when UCSB became a full RLG member. At present, UCSB maintains one OCLC terminal and pays for the use of the OCLC ILL module, to facilitate borrowing of material. It is anticipated that this level of association with OCLC will continue in the foreseeable future (see above section on ILL services).

Shared Acquisitions Program

This U.C. systemwide program was instituted 1) to acquire materials of high unit cost that could be shared among the users at any campus, 2) to reduce duplication of particularly expensive acquisitions among the campuses, and 3) to provide a means for the libraries to increase the breadth of their total library resources.

The program is organized so that any campus may request the use of shared purchase funds for a large acquisitition. A systemwide oversite committee weighs the individual requests and administers funds. When a purchase is approved, the holding library is generally obligated to lend the material itself or a photocopy or microform reproduction to other campuses, upon request (exceptions to this rule for certain items are made by the purchasing committee). When indices to a primary work are available, they are to be acquired for all campuses who request them.

Provision of bibliographic access to materials purchased through this program has often been problematic. When a full MARC record is readily available for an item, it appears in MELVYL, but delays and lack of acceptable cataloging copy are often the case. A periodically issued composite list of U.C. shared acquisitions, with varying levels of bibliographic completeness for items, is thus the standard access tool for items not incorporated in local library catalogs or MELVYL, so that users must often learn of the existence of needed items through subject specialists or reference personnel.

A local study of U.C. shared acquisitions was undertaken several months ago, to identify location, means of access and proper bibliographic form for items on the extant composite list. At present, it is estimated that the study is two-thirds completed.

Off-site Storage

Construction of the Southern Regional Library Facility (SRLF) at UCLA was mandated by the state legislature's approval of the Master Plan for the U.C. Libraries, late in the last decade. Like its counterpart in the North (which has been in operation now for some years), the Southern facility is intended to house lesser used but valued research materials for the various Southern campuses, to save space and reduce the need for additional library construction on these campuses.

The SRLF is projected to be ready to receive materials in late 1987. Each campus is assigned its own quota of volumes per year to be submitted to the facility. The quota set for UCSB is 10,000 volumes per year, so that by 1988 we are obligated to submit 100,000 volumes. Present plans are to send roughly one-third of the accumulated quota in the first year.

Records of items sent to the facility will be maintained in MELVYL, with a location annotation indicating the SRLF. Circulation record-keeping at the facility is to be by accession number-linked records in UCLA's ORION system. Titles needed by users can be requested through ILL units of the respective campuses or requested directly at the facility. At UCSB, a 48-hour turn-around time is projected for items requested through ILL and delivered by inter-campus bus. Staff at the facility will retrieve items requested, but there are no plans to permit direct browsing by users.

In the initial three years of operation, duplicate volumes will be accepted by the facility. After that time, a decision will be made regarding which pieces to keep, based on the physical condition of the volume(s). The local campuses that originally submitted duplicate titles not retained will then have the option of accepting their return or having them discarded by the SRLF.

At UCSB, the library administration has requested funds from the campus administration to address local storage needs. Several possible functions are envisioned for a local storage facility: to hold materials until they can be sent to the SRLF, thus freeing shelving space in the library; to provide an alternative to the SRLF should space eventually become limited there; and to hold materials pending construction of a new library addition anticipated in the next 8-10 years. Off-campus, leased storage is seen as the most likely option to pursue, due to the space problems of the UCSB campus.

National Inventory of Research Collections
The RLG Conspectus

The National Collections Inventory Project is intended to provide a systematically constructed online inventory of collection strengths, by subject area, of the major research libraries in North America. Using LC Classification numbers and LC Subject Headings, libraries are being described according to the relative strengths of their existing collections and according to the levels of collecting intensity they project maintaining.

At present, in the pioneer phases of the effort, participants are conducting on-site evaluations of their collections, applying language delimiters and rather broadly defined collecting levels (ranging from minimal to comprehensive) according to the guidelines of the ARL/OMS' Manual for North American Inventory of Research Library Collections. Project participants, with varying educational backgrounds, professional interests and levels of subject expertise, each have some role in maintaining the collections they evaluate. Quantitative measures and use of authoritative bibliographies are often employed, but the rather general nature of some of the guidelines applied may lend to subjective interpretations on the part of participants. Problems occur, too, when material in collections does not comfortably fit into LC

Subject Heading categories. A mechanism for verifying the original, on-site inventories is expected to be developed; and standards are projected to further solidify, as the project moves forward.

When completed, the inventory project will provide scholars, libraries, and the academic community with a valuable tool for locating, comparing, and acquiring research materials; and will enable the cooperative development of collections, at the national level.

V. STANDARDS OR IDEALS FOR ACCESS TO MATERIAL

Because we are the first ARL/OMS Task Force on Access to Information, we felt it appropriate to consider the levels of bibliographic and physical access that should be achieved "in the best of all possible worlds", tempered by the realities of our situation, as a research library in the U.C. system with a large and complex collection, before proceeding with concrete, phased recommendations for achieving improved access. After consideration, we feel that technological prospects make these ideals realizable, in the long term, while the likely sharpening of user expectations in coming years warrant their energetic pursuit as standards. Therefore, for the UCSB Library of the year 1996 (if not sooner):

1. Avenues of access should be maintained for virtually all published material, regardless of location.
2. Bibliographic records of the fullest level possible should be maintained in one central UCSB Library access system, for all material retained by the Library.
3. Some level of bibliographic access should be provided for material in any stage of processing within the library.
4. A user having minimal bibliographic skills should be able to make effective use of the Library's access system.
5. Material held within the Library should be retrievable, with rare exceptions, within two hours; and, without exception, within one working day.
6. Off-site material owned by the U.C. system should be retrievable within three working days.

VI. SHORT TERM RECOMMENDATIONS

We envision the following recommendations as being implemented in the next two to three years.

Preparing Our Records for An Automated Catalog

1. That a study be undertaken of circulation/use statistics to determine which departments do and do not use library resources.

   a. to enable application of the criteria for prioritizing improvements in access to UCSB's Collections.

   b. to review and update priorities for subsequent retrospective conversion.

   c. to enable a campus-wide "resource awareness" program to be developed, to enhance awareness of resources users have little knowledge of.

2. That uncataloged items, (government publications, technical reports, major microform sets, etc.) be matched with machine readable records, where available; and be given brief cataloging where MARC records are unavailable.

3. That brief-listed records in the Special Collections card catalog be merged with brief records for the same items in the main card catalog, synthesizing the records for the RLIN database.

4. That ways of providing effective records for material whose format does not lend itself to current cataloging practices, such as the Art Exhibition Catalog Collection and the Map and Imagery Collection, be researched.

Improvement of Resource Awareness

1. That a "resource awareness" program be initiated, perhaps by means of brochures tailored to the needs of specific academic disciplines, to acquaint users with valuable but little used resources and the means of accessing them.
2. That RLIN terminals be provided at service points, so that service personnel can provide information to users concerning material not represented in MELVYL or the main card catalog.

   a. taking advantage of overnight processing of records to provide a more up-to-date representation of our holdings than the main card catalog or MELVYL.

   b. to utilize the union catalog capability of RLIN, providing subject access to the holdings of RLG member libraries.

3. That the usefulness of MELVYL in its present state of development be enhanced by:

   a. an increase in the number of terminals available to users, in public service areas and in remote locations in the stacks, to the extent of allotted ports.

   b. the capability of printing search results from any terminal.

   c. additional point-of-use aids, such as the flip-chart developed by the Library Orientation office at Berkeley, at all MELVYL stations.

4. That bibliographic records, with brief abstracts of contents, be provided in MELVYL for items purchased through the shared acquisitions program.
5. That library administrations of the U.C. system participate in forums where concern on the accessibility to information produced by and about the

government is communicated to the public and to appropriate government bodies.

Transition to Realization of Long-term Objectives

1. That the UCSB Library cease the filing of printed cards in the main card catalog for newly acquired monographs, and that MELVYL and RLIN serve as the access tools for monographs having imprints of 1980 or later.

   a. to eliminate the redundancy of entering records in the main card catalog which are present in both RLIN and MELVYL.

   b. to accomodate the physical limits of the card catalog, so that filing of cards can continue for records presently being input into only one of the online databases (RLIN).

   c. to realize the benefits of retroconversion of items to machine readable form (predicated on fulfillment of steps outlined in "Improvement of Resource Awareness").

2. That guides to the use of access tools be constructed and prominently displayed, advising users to consult MELVYL (or RLIN, via reference personnel) for monographs with imprints of 1980 or later; and the card catalog (or RLIN) for other forms.

3. That, at the outset of this transition period, the necessity for these steps and the ultimate objective of a comprehensive and fully accessible online catalog be made widely known to the campus community, through a campus newsletter or other appropriate mode of communication.

Improvement of Delivery of Information

1. That the success of the new document delivery service be studied, in terms of user satisfaction and expectations.
2. That document delivery services and ILL services be subsumed in one UCSB Library Access Unit; and that new staffing needs created by new service responsibilities be met, to insure the timely handling of requests.
4. That the use of the PROFS electronic mail system for the handling of faculty requests be investigated.
5. That the results of the ILL unit's OCLC/RLIN study be given consideration in determining the future role of OCLC as a tool for access to off-site resources.
6. That use of electronic fascimile reproduction for ILL services be investigated, at the U.C. system-wide level.
7. That a plan be devised for realizing UCSB's potential in resource-sharing arrangements, identifying our areas of collection strength and defining UCSB's likely role in cooperative networks, as systems further evolve.

VII. LONG-TERM RECOMMENDATIONS

We envision implementation of the following recommendations as occurring within three to eight years from the present:

In order to improve access to material in the UCSB Library for the long term, we recommend that the Library obtain its own online public access system, capable of providing the user with bibliographic, in-process status, location and holdings information for any item of the UCSB Library Collection. This system is envisioned as a relational database with access to multiple data sets from the same terminal. The system must be fully designed, understood, and financed before implementation, even if implementation is to be completed in stages. The software should be such that it can be adapted to new resource needs, as they emerge. A back-up system, providing high-speed record access should be implemented, inasmuch as possible, concurrent with the main system.

Nature of the Database

The database should be flexible enough to allow entry of brief records, as well as entry of records that meet national standards; should provide records for both textual and non-textual material, even though these records may reside in separate files; and should be capable of accomodating any government or commercial catalog tapes which the Library may purchase. System design should be such that brief-cataloged records are automatically bumped when and if full cataloging is provided.

Relation to User

The system should be user friendly, able to respond to natural language-type queries, to the extent possible, with automatic switching between synonymous terms. Help and explain capabilities should be available. The system should operate in real time.

Components or Data Sets

Specific components of the system are envisioned to handle different aspects of data, according to function. The separate components should include records of functions associated with acquisitions, cataloging, serials control and circulation. The acquisitions module should enable the user to access records of items on order or received; and should be capable of providing history and management data for subject recommenders and the library administration, to enable ongoing assessment of the collection (fiscal records will not be available to users). The cataloging module should include an authority file and be capable of providing cataloging maintenance. The circulation module should include all circulation records, irrespective of the service point from which they were charged out, and should provide users with the status of any item not housed in call number sequence in the stacks. The serials module should enable the user to call up holdings (consolidated bound and latest issues received), location, and title history for serial items, and should streamline various control mechanisms now manually maintained, such as bindery control.

All these separate components should use the same bibliographic record for an individual item, and a full record-tracking capability should be inherent in the sytem, so that a complete business record for an item would be available on demand for processing units and, with some exceptions, for users.

Remote Access to Database

Remote terminals for the online catalog should be provided at strategic locations throughout the campus community, perhaps in professors' offices and dormitory halls. Off-line copies of the database (on laser-produced disks or another medium) should be provided to other U.C. Libraries, TIE member and RLG member libraries.

VIII. ISSUES SUGGESTED FOR FUTURE STUDIES

The following issues fell within the scope of the original charge of our task force, and generated considerable discussion in group meetings. In each case, however, the group was not able to arrive at a systematic methodology to deal pragmatically with questions raised by the issue, within given time constraints. The importance of the issues, and the need for careful compilation of objective data before considering specific recommendations, we feel, warrant the implementation of separate studies for each.

1. Examination of the effects of circulation policies and procedures, including loan periods, recall and hold transactions and re-shelving procedures, on the timeliness of physical access to material.
2. A study of database searching at UCSB, identifying current capabilities, service policies and limitations, and directions for the future. (Though they fall within our original charge, these issues are expected to be dealt with by the newly formed Database Searching Services Committee.)
3. Study of the use of full-text databases as information resources. Quality of accessibility of material (indexing or other retrieval mechanisms), we feel, should be factored into policies governing use, acquisition, or subscription to these.
4. As a precursor to the automation of processing functions, a study on technical processing activities being carried out in public service areas, examining the purposes and efficiency of activities.
5. Following implementation of automated record-keeping for technical processing functions, assessment of the timeliness of access to in-process materials, projecting realistic goals for the flow of and tracking of material through standard processes.

6. Roughly five years (or another appropriate date) from the time the SRLF facility becomes operational, an assessment of the efficacy of its logistics for physical retrieval of material.

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Appendix A

ACCESS TO INFORMATION

This Task Torce will examine the two basic aspects of access to information: identification of the source of information; and access to the information itself either directly or indirectly. Under these broad headings, some of the topics which the Task Force will want to examine are:

What is meant by "timely access to information", as we look to the future;

How we can enhance access, both bibliographical and physical, to the collections in the UCSB library;

Recommendations for the coordination of public and technical services to insure optimal access to local resources;

Access to external resources;

Delivery of information to users.

The Study Team will provide the Task Force with a more specific list of questions related to each of these topics.

ACCESS TO INFORMATION
TASK FORCE

ACTION PLAN

I. ELEMENTS OF THE CHARGE TO BE ADDRESSED

A. Access to UCSB Collections

1. Examination of physical and bibliographic access to material in USCB's Collections. Our priority will be to describe areas of the collection where access to information/materials is dependent on staff intervention, with emphasis on arrangement, circulation and bibliographic control.

2. Identification of material for which access must be improved, based on demand for and uniqueness or importance of material, recommending means of improvement where practical.

3. Assessment of the timeliness of access to in-process materials, identifying areas where processes may need to be streamlined; projecting realistic goals for the flow of material and the tracking of material through standard processes; and examining policies or mechanisms in processing areas for user access to material at various stages.

B. Access to External Resources

1. Critical assessment of UCSB's cooperation with sister campuses, and involvement in TIE, CRL, RLG and other networking efforts, anticipating the future role of these cooperative arrangements.

2. Description of UCSB's database searching services (bibliographic and non-bibliographic), identifying current capabilities, service policies, limitations, and projections for the future.

3. Outlining of certain larger trends which are likely to impact UCSB's use of external resources; specifically, trends in publishing or the creating of information and the government's role in providing or limiting access to information.

C. Delivery of Information to Users

1. Assessment of the alternatives for local ownership of material and off-site access, in light of what is available through networking efforts, what publishing trends reveal, and what our user needs are, inclusive of all electronic and nonelectronic methods.

2. From the perspective of our present and likely future role as an academic library, assessment of the

competitiveness of the UCSB Library in the information marketplace, identifying possible deficiencies and remedies, if applicable.

3. Outlining of the standards which a local, automated, public access catalog should meet, vis-a'-vis our University-wide union catalog, based on user needs and the assessment of present access problems.

D. ELEMENTS OF THE CHARGE THAT WILL NOT BE ADDRESSED IN DETAIL

1. Document delivery service is currently in the infant stages of being implemented. The program will not have been in operation long enough at the outset of this study to allow for the realistic evaluation of its effectiveness, though we may briefly outline our expectations, i.e. refers only to a current project now underway.

2. We feel the amount of staff intervention required for any aspect of public service overlaps with other task force charges. This issue should be considered by the Task Force on Organization, Coordination and Staffing of Public Service Activities.

3. Remote storage will not be extensively studied as part of this Task Force's charge as various state committees are currently in the process of determining policies and procedures for the Southern Regional Storage Facility.

II. METHODOLOGY

A. Access to UCSB Collections

1. Fact-finding studies of particular areas of the collection will be undertaken, with each task force member reporting on specific, assigned areas. The group will draw on and refer to findings of the earlier LAUC study on access to materials not represented in the catalog, where applicable.

2. Through controlled group discussion, specific criteria for evaluating demand, importance of material, and problems related to bibliographic control, will be applied to problem material identified in our fact-finding studies. Possible remedies which emerge in group discussion will be noted.

3. It has not yet been firmly decided what method will be used to gather information relevant to the timeliness of access to in-process material, though possibilities include: analysis of sample material as it is carried through standard processes; interviews with library personnel; a questionnaire being administered to service staff on perceptions of

processing activities; an examination of the tracking mechanisms employed at other campuses.

B. Access to External Resources

1-2: A series of discrete, fact-finding interviews with staff having appropriate expertise in these areas will be conducted. Individual task force members will report on assigned areas.

3. This outlining of larger trends will be drawn to a great extent from outside readings, with appropriate attributions given in the task force's final report.

C. Delivery of Information to Users

1-3: In addressing these specific elements of our charge, members will need to synthesize and in some cases reconcile or balance the results of foregoing methodologies. The group feels that these elements are, in a sense, the more philosophical aspects of its charge, areas which require the application of value judgements, albeit in the light of objective findings and, possibly, readings. To objectify the subjective, inasmuch as possible, therefore, observations relevant to these particular elements of the charge which emerge in the course of group discussions, will be given the formal, extensive consideration of the group, so that only those which stand the test of group consensus will serve as findings or recommendations of the group.

III. TIMELINE

A. Assignment of Tasks

Assignment of individual task force members to areas of the collection to be studied, library staff to be interviewed, and specific readings to be reviewed will be made early in October.

B. Gathering of Data

Group members will carry out their specific assignments beginning about mid-October. It is hoped that data collection and necessary group discussion will be completed by the end of December.

C. Task Force Report and Recommendations

The group will meet to compile findings and formulate its recommendations during the month of January. The projected completion date for the group's final report is February 14, 1985.

Guide to Appendix B

Cat. Lev.: Level of Cataloging and/or Classification
3- Full cataloging and classification provided by the Cataloging Dept.
2- Cataloging and/or classification completed by the department collecting the material.
1- Informal organization (e.g. brieflisted, pamphlet file).
0- No cataloging or classification provided.

P.D.: Personnel dependent

Time: H- Hourly
D- Daily
I- Immediately

Type: Housing of materials
O- Open stacks
C- Closed stacks and/or areas unavailable to public.

NCF: Non-current file
Calls: California Academic Libraries List of Serials

APPENDIX B

TYPE OF MATERIAL	CAT. LEV.	BIBLIOGRAPHIC ACCESS METHODS/ TOOLS	P.D. Y/N	TIME*	RETRIEVAL METHODS	PHYSICAL ACCESS TYPE	P.D. Y/N	TIME*	NOTES
Monographs	3	Main Catalog	N	I	Patron	O	N	H	
		MELVYL/RLIN	N	I					
Monographs in-proc.	3	Main Catalog MELVYL/RLIN	N	I	Cataloging staff/ Patron	O/C	Y	H-D	Material that has been catalogued but cards have not been filed in the public cat. and books may not be in open stacks. Approx. 18 items per mo. from all sources.
Scores in-proc.	0	Manual Order files Acquisitions Dept.	Y	I-H	Acquisitions staff	C	Y	D	Patrons have no way of knowing if material has been received.
Monographs on-order	1	Manual Order files Acquisitions Dept.	Y	H	Acquisitions staff	C	Y	I-H	Manual files consist of outstanding order, Approval, Publisher, and Series Outstanding orders. Demand is approximately one item per week by patrons, most requests by proc. units.
Monographs un-cat.	1	Main Catalog	N	H	Cataloging staff	C	Y	D	Consists of monographs received by the cataloging dept. & waiting to be or in the process of being cat. Demand is approx. 55 items per month from all sources, i.e. patrons, ILL, proc. units etc. Requests filled by 3pm next day.
Special un-cat. mat.	1	Main Catalog	N	H	Cataloging staff. Circulation staff for brittle books.	C	Y	D	Consists of monographic collections received by the library but never processed. Collections included are: X, Nikic, Wendell, Haddad, & Melton. Brittle bks. are also included in this category as retrieval methods are nearly the same.
Gifts	0	None until processed	Y	n/a		C	n/a		Materials in this category are not available by any method until they begin the acquisitions process of searching & typing of order slips.
Serials	3	Main catalog	N	I	Patron	O	N	I	Serials list only indicates LSO status from a certain issue onward. Doesn't indicate the most current issue held in the library. Quality of assistance at Serials information desk is often dependant upon the experience & knowledge of student assistants who are not always able to correctly interpret patron requests & citations of titles.
		MELVYL/RLIN	N	I					
		Microfiche Indexes	N	I					
		Serials lists	Y	I					
		Kardex	Y	I	Serials staff	C			
Serials in-proc.	1	Kardex/NCF/Brief listed file	Y	I-H	Serials staff	C	Y	I-D	"In Process" status is not designated in Serials List. Material is listed "On Order" in Serials List until permanent cataloging is complete. There is a lag between time of receipt of material & the point when a new Serials list is printed (every 4 mos.). Patron needs to ask about status of order at Serials Desk. Material requested from cataloging is available by 1:00pm following day. Demand is approximately 2 items per week. Material requested from Serials processing points is available within an hour. Demand is frequent- 15-20 items per day.
Serials on-order	1	Manual Order files	Y	H	Serials staff	n/a	Y	I-D	

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Serials rec'd not checked in	0	None until processed	Y	n/a	Staff	C	Y	n/a	
Serials new titles	1	Kardex/NCF	Y	I	Serials staff	C	Y	D	
Serials brief listed	1	Microfiche indexes/ Brief listed file/ Serials list/Spec. Coll. files.	Y	I	Serials staff	C	Y	I	Consists mainly of X-Coll., Special Coll., Printers Collection titles which have not yet been permanently catalogued.
Newspapers	3	Serials list/Kardex/ Newspaper Rm. file/ Main Catalog	N	I	Patron	O	N	I	
Miscellaneous colls.									
Pamphlets	2	Direct subj. access	N	I	Patron	O	N	I	
Telephone Directs.	2	Card file	N	I	Patron	O	N	I	
College cats.	2	Index	N	I	Patron	O	N	I	
Clipping file CTN & Bl. Std.	2	Files		I	Patron	O		I	
Stack D	3	Main Catalog	N	I	Staff	C	Y	I-H	
Reference Coll.	3	Main Catalog/Ref. Shelf list	Y/N	I	Patron/Staff	O/C	Y/N	I	
Microform sets	3	Main Catalog/Indexes	Y/N	I	Patron	O	N	I	Sets not analyzed requiring patrons to use indexes that accompany microform sets.
Curriculum Lab.	3/2/1/	Catalog in curr. lab	N	I	Patron	O	N	I	
Coleccion T. N.	3	Catalogs-Main/CTN/ MELVYL	N	I	Patron	O	N	I	Non-circulating collection
Black Studies	3	Catalogs-Main/Black Studies/MELVYL	N	I	Patron	O	N	I	Non-circulating collection
Oriental Collection									
Monographs	3	Catalogs-Main/Or.C.	Y	I	Patron	O	N	I	
Serials	3	Catalogs-Main/Or.C. Kardex/NCF/Serials List/Microfiche Ind.	Y	I	Patron	O	N	I	
Stack D/Reference	3	Catalogs-Main/Or.C.	Y	I	Staff/Patron	C/O	Y	I	
Microforms	3	Catalogs-Main/Or.C.	Y	I	Patron	O	Y	I	
Monographs in-proc. & un-cat.	1	Cat.-Oriental Coll. temp. slips	Y	I	Staff	C	Y	I	Call nos. are put on temporary slips after materials are catalogued.
Serials in-proc. & un-cat.	1	Kardex/NCF & Cat.- Oriental Coll.	Y	I	Staff	C	Y	I	
Map & Imagery Coll.									No catalog exists. Those help aids that do exist require technical knowledge. Access is totally staff dependent. Experienced Map & Imagery staff are required for both paging & service. Time required and level of staff depend on type of materials needed.
Analog imagery	0/1	Partial Microfiche	Y	H	Staff	C	Y	H	
Digital imagery	0/1	Partial Microfiche	Y	H	Staff	C	Y	H	
Imagery indexes	0/1	Area or flight symb.	Y	H	Staff	C	Y	H	
Paper maps & chart	0/1	No catalog exists	Y	H-D	Staff	C	Y	H-D	
Maps in microform	1	No catalog exists	Y	H	Staff	C	Y	H-D	
Paper Atlases & Map biblios/Gaz.	3	Main Catalog MELVYL	N	I	Patron	O/C	N	I	
Atlases/Microform	3	Main Catalog Serials list	N	I	Patron	O/C	N	I	
Govt. Pub. Coll.									

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Federal pubs.	2	G.P. Shelflist, MC Printed catalogs Indices	Y	I-H	Staff	C	Y	I-H	Better indexed and controlled than other documents, generally.
California pubs.	2	G.P. Shelflist CA State Pubs.	Y	I-H	Staff	C	Y	I-H	Nearly as well controlled as federal documents.
State/County/ Municipal pubs.	2	Guides & lists	Y	I-H	Staff	C	Y	I-H	Generally lesser quality access tools and fewer access tools.
Non-domestic pubs.	2	G.P. Shelflist (few)	Y	I-H	Staff	C	Y	I-H	Patchy quality of access tools; few available.
International govt org. pubs.	2	G.P. Shelflist Some printed cats. and indices	Y	I-H	Staff	C	Y	I-H	Indexing and control almost at level of U.S. federal documents, generally.
Reference tools	3	Main Catalog/MELVYL	N	I	Patron	O	N	I	In many cases, constitute the access tools to other items.
Serials un-cat.	2	G.P. Shelflist, Serials list, other sources	Y	I-H	Staff	C	Y	I-H	Form of entry in serials list may differ from bib. form of citations; overlaps with other categories.
Serials cat.	3	Main Catalog/MELVYL Serials list	Y	I-H	Staff	C	Y	I-H	Form of entry in serials list may differ from bib. form of citations; overlaps with other categories.
Depository in proc.	0	Alpha. arrangement	Y	I-H	Staff	C	Y	I-H	Generally, a ref. person will know that an item is expected.
Sci./Engr. Coll.									
Stack D Coll.	3	Main Catalog/MELVYL/ SEL Ref. Cat./Biblio. lists	N	I	Staff	C	Y	I	Contains difficult to control materials.
Ref. Desk Coll.	3	See above	N	I	Staff	C	Y	I	Material shelved behind reference desk.
Index/Abst. Coll.	3	Serials list/Main Catalog/MELVYL/SEL Ref. Cat./Biblio. lists	N/Y	I	Patron/Staff	O	N/Y	I	Less frequently used abstracts in open stacks.
Reference Coll.	3	Main Catalog/MELVYL SEL Ref. Cat.Biblio. lists	N	I	Patron/Staff	O	N/Y	I	Less frequently used ref. bks. in open stacks.
Biblio/Z Coll.	3	See above	N	I	Patron/Staff	O	N/Y	I	Ref. & non-ref. Z's interfiled.
Sadtler Spectra	3	See above	Y/N	I	Patron/Staff	O	N/Y	I	Includes 4 collections: Infrafred, NMR, Ultra-Violet, commercial, monomers & polymers.
Technical Repts.	2	Main Catalog/MELVYL/ Bibliographies/ Abstracts/Indexes	Y/N	I	Staff	C	Y	I	Selected hard copy issues cat. 90% on fiche.
Rand Reports	2	See above	Y/N	I	Staff	C	Y	I	Selected titles cat. All are in hard copy.
Pamphlet Coll.	1	Direct subj. access	Y/N	I	Patron/Staff	O	N/Y	I	Slow growth Coll. Housed in filing cabinets.
Newsletters Coll.	1	Direct subj. access	Y/N	I	Patron/Staff	O	N/Y	I	Slow growth Coll. Housed in filing cabinets.
Chem./Equip. Cat. Coll.	1	Company name	N/Y	I	Patron/Staff	O	N/Y	I	Slow growth Coll. Keep current year only. On open shelves.
Pathfinder Biblio. File	1	Subject heading card file	N/Y	I	Staff	C	Y	I	Consists of 2-5 page bibliography on science subjects. Ring binders behind SEL desk.
Exams file	1	Course no./instructor card file	N/Y	I	Staff	C	Y	I	Updated yearly. Covers science & engineering exams submitted by faculty. In-house only.
Microfilm Coll.	3	Main Catalog/MELVYL	N	I	Patron/Staff	O	N/Y	I	Contains SEL cat. materials. Housed with general

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									microfilm collections.
Microfiche Coll.	3	Main Catalog/MELVYL	N	I	Patron/Staff	O	N/Y	I	Contains SEL cat. materials. Housed in filing cabinets in SEL.
Microcard Coll.	3	Main Catalog/MELVYL	N	I	Patron/Staff	O	N/Y	I	Contains SEL cat. materials. Housed in SEL Ref. card catalog near desk.
Special Collections									All Special Collections housed together in one secured space that includes a vault.
Wyles Coll.	3	Catalogs-Main/Spec. MELVYL/RLIN	N	I-H	Spec. Coll. Staff	C	Y	I	Most of this coll. is LC cataloging.
Skofield Printers	3/1	Catalogs-Main/Spec. MELVYL/RLIN/Brief listed	N	I-H	Spec. Coll. Staff	C	Y	I	Partially catalogued.
Ernst Banned Bks	2	Catalogs-Main/Spec.	N	I-H	Spec. Coll. Staff	C	Y	I	All books cat. in same class to keep collection together. A card file is also kept.
French Revolt. Pams	1	Brief listed	Y	I-H	Spec. Coll. Staff	C	Y	I-H	Brief listed in Main cat.-title entry only. Spec. coll. cat. arranged by collection & subj. with author/main entry entry access.
Mauritius Coll.	1	Brief listed	Y	I-H	Spec. Coll. Staff	C	Y	I-H	
C. Darwin & Evol.	1	Brief listed	Y	I-H	Spec. Coll. Staff	C	Y	I-H	
Lockman Found. Arch	1	Brief listed	Y	I-H	Spec. Coll. Staff	C	Y	I-H	Same as above
Tebbetts Mem. Coll	1	Brief listed	Y	I-H	Spec. Coll. Staff	C	Y	I-H	Same as above
Toole-Stott Circus	1	Brief listed	Y	I-H	Spec. Coll. Staff	C	Y	I-H	Same as above
Newspapers coll.	1	Brief listed	Y	I-H	Spec. Coll. Staff	C	Y	I-H	Belong to various collections such as Wyles, etc.
J.J. Mitchell	2	Catalogued but not classified	Y	I-H	Spec. Coll. Staff	C	Y	I-H	
Ruth C. Mitchell	2	Same as above	Y	I-H	Spec. Coll. Staff	C	Y	I-H	
Greek N.T. Coll.	3	Catalog	N	I-H	Spec. Coll. Staff	C	Y	I-H	
Wittenstein-Wurttemberg Col.	2	Catalogued but not classified	Y	I-H	Spec. Coll. Staff	C	Y	I-H	Collection on loan to UCSB.
Community Develop. & Conserva. Coll.	3/1	Catalog/Brief listed	Y	I-H	Spec. Coll. Staff	C	Y	I-H	
Manuscripts coll. incl. ltrs, paper ephemera for over 120 collections	1	Finding lists by collection	Y	I-D	Spec. Coll. Staff	C	Y	I-D	Spec. Coll. staff person in charge of this coll. aids patrons. Also printed checklist to colls. was done in 1970 & will be updated.
Oral/Family Hist.	2	Spec. Coll. Cat.	Y	I-H	Spec. Coll. Staff	C	Y	I-H	
Radical lit. pams.	0	No biblio. access	Y	I-H	Spec. Coll. Staff	C	Y	I-H	
Romaine Trade cats	1	Typed list in Spec.	Y	I-H	Spec. Coll. Staff	C	Y	I-H	
Theses/Disserts.	3/1	Catalog/Brief listed	N/Y	I-H	Spec. Coll. Staff	C	Y	I-H	
Univ. archives	3	Main cat. (some)	N/Y	I-H	Spec. Coll. Staff	C	Y	I-H	
B. Herrmann coll.	0	No biblio. access	Y	H	Spec. Coll. Staff	C	Y	I-H	Index folder lists manuscripts in collection.
Music Collection									Music Collection housed in another building.
Scores	3	Catalogs-Main/Music	N	I	Patron	O	Y	I	No MELVYL access to music scores.
Phonorecords	3	Music catalog only	N	I	Music staff	C	Y	I	No MELVYL access to phonorecords.
Phonorec. in-proc.	1	In house index	Y	I-H	Music staff	C			In-proc. files kept in Music Lib. including copies of record orders.
MA/PHD & Perf. docs.	1	Music cat. author	Y	I	Music staff	C	Y	I	In house index. No cat. dept. involvment.
Music videotapes	1	In house index in Music catalog	N	I	Music staff	C	Y	I-H	In house index. No record in Main Lib. cat. Cataloging of these to begin shortly.
Music Dept. per-	1	Card index at Music	Y	I	Music staff	C	Y	I-H	In house index. No cat. dept. involvment.

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formance tapes		Service Desk							
Archive of recorded vocal music	1/0	1/4 coll. printed cat., 3 brochures/ Librarians lists	Y	M-D	Music Librarians	C	Y	M-D	Cat. done in house. None being done due to lack of staff at this time.
Goethe in Music	3	Catalogs-Main/Music MELVYL/RLIN	N	I	Music staff	C	Y	I	
Microform sets	3	Catalogs-Main/Music In houses indexes	N	I	Patron	O	N	I	
Pamphlet files	1	Subject arrang.	N	I	Patron	O	N	I	Includes composer file, series file, libretto file, newsletter/pub. file.
Publ./Vendor cats. for bks, sco, rec	1	Alpha. each area for pubs. & vendrs.	N	I	Patron	O	N	I	Important because of lack of adequate in-print information/availability of music materials.
Art Collection									Housed with music collection.
Art Exhib. Cat.	2	Microfiche indexes Arts Lib./Acquisitions Dept.-Main	N	I	Patron	O	N	I	Microfiche updated twice yearly. Access to AEC's not on fiche is through inputting work-worksheets filed by Agency (Mus., Gall., etc.).
Auction Cat.Coll.	2/0	Microfiche indexes (only part of coll.)	Y	I	Patron/Art staff	O	N	I	Partially cat. on microfiche. Uncat. items filed by auction house/date on open shelves. No cat. currently being done due to lack of staff.
MFA Collection	1	In house card index	N	I	Art staff	C	Y	I	Includes only thesis docs. given lib. by Art Dept.
Videotapes/casset.	1	In house index-Mus. catalog	N	I	Art staff	C	Y	I-H	In-house list kept in Music Lib. cat. No records in Main Library Catalog. Cataloging to begin shortly.
Pamphlet files	1	Subject access	N	I	Patron	O	N	I	
NYPL pam files	1	NYPL cat. in-hse list	Y	I-H	Art staff	C	Y	I-H	
Print coll.	1	No biblio. access	N	H	Patron	O	N	I	Collection of mounted prints filed by media/ Country/Artist. Slow growth collection.
College cats. (Art schools)	0	Alpha. by state	N	I	Patron	O	N	I	
Microform sets	3	Catalogs-Main/Arts Indexes	N	I	Patron	O	N	I	Indexes to sets kept near microform shelf area.
Non-textual coll. (photographs)	3	Catalogs-Main/Arts Indexes	Y	I	Patron/Art staff	O	N/Y	I	

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Appendix C

People Interviewed

Albert, Ted, Data Administrator, United States Geological Survey, Reston, VA

Bower, Susan, Librarian, Arts Library, Music Unit

Brun, Chris, Head, Special Collecitons

Cohen, Allen, Head, Cataloging Department

Gibbens, Carol B., Acting Head, Reference Department

Graziano, Eugene, Reference Librarian, Reference Department

Hernandez, Juanita, Library Assistant, Receiving Unit, Cataloging Department

Hock, Dr. Joan, Head, Assessment & Information Services, National Oceanic and Atmospheric Administration, Washington, D.C.

Hurley, Bernie, Systems Officer, University of California, Berkeley

Linville, Herb, Head, Government Publications

McCredie, Gail, Library Assistant, Reserve Book Room, Circulation Department (Previous experience in Receiving Unit, Cataloging Department)

Meyr, Marilynn E., Library Assistant, Circulation Section, Circulation

Mueller, Dr. George, Past President of Systems Data Corp.

Nanna, Laura, Assistant Head, Acquisitions Department

Olson, Dr. Charles, University of Michigan

Ritchie, Lori, Library Assistant, Special Collections

Sheldon, Gary, Head, Data Facility, National Aeronautics and Space Administration, Ames Research Center, Menlo Park

Silver, Martin, Music Librarian, Arts Library, Music Unit

Sivers, Robert, Assistant Department Head, Science and Engineering Library

Smitheram, Lou, Library Assistant, Interlibrary Loan

Snowhill, Lucia, Librarian, Government Publications

Stonesifer, Richard, National Space Science Data Center, Goddard Space Flight Center, MD

Thomas, Grace, Principal Cataloger, Cataloging Department

Treese, William R., Head, Arts Library

Uthe, Kathryn, Library Assistant, Interlibrary Loan

Vasi, John, Assistant University Librarian, Administrative Services

Zorker, Richard, Chief, National Cartographic Information Center, Western U.S.

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